

Digital Photography - Brown Bag Lunch Series
07.31.06.03

Meeting 1

Good Tutorials

General Digital Photography Tutorials

[Cambridge In Color](#)

[StartPhoto](#)

[Camera](#)

[PhotoZone](#)

Basic Photography

[Link](#)

Advanced Photography

[Link](#)

Overview

Goals

Learn about cameras, photography and photo manipulation

Have some fun taking pictures

There will be (optional) assignments!

Cameras

types

costs

tradeoffs

Basic use

Photography

what do you want to take a picture of

How do you get the camera set the way you need/want it

Equipment (tripods, strobes, etc)

Printing

Framing

Scanning

Image manipulation

[1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#)

Cameras

[Digital vs. film](#) – film is dead (except for very high-end professional work), RIP!

Film and printing costs

Speed - no developing and printing to see pix

Ease of use

Instant review, delete, etc.

Dynamic range less with digital

Easier to get to digital darkroom (no scanning)

Life of images

negative life vs. digital file "life"

print life - silver vs. inks, etc.

Number of shots per "roll"

No developing

chemicals

inconsistency in developing
Film is still better in some ways than digital
dynamic range
Cost of a 35mm camera is \$200-\$300 vs. equivalent
digital is \$3,000+ and to get the same shots requires use
of Photoshop in many cases for digital because of its
limitations.

Basic types

All-in-ones

[Different sizes](#) – [ultra-compact](#) to [almost SLR](#)

SLR

Ranging from [“low-end” \\$500](#) to [high-end \\$20K](#)

Other

Mega pixels, mega pixels, mega pixels

In essence the film "grain" - how many dots per square inch on
a print

[cell Size](#) - SIZE MATTERS!!!

quality of cells - even cell of same size may be radically
different technology for same manufacture

Different manufacturers use different technology and designs
which greatly affect image quality

ISO ranges between same and different manufacturer - e.g.,

Canon 400 may be much better than Nikon 400 and canon 400
in one model may be a lot different than another canon.

All-in ones

[Best of](#)

Reviews

review usually don't talk about camera quality or repair
costs, etc. (they talk a lot about image quality). This is
an important factor as these cameras frequently break.

[more](#)

[more - by size](#)

[more](#)

MEETING 2 starts here

Assignment 1 - [My Images](#)

Neat Images: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#)

Some More Interesting Links: [all about sensors](#)

[Some notes about jpeg](#) from Daniel

one important point here is that if you do ANYTHING to a file
and re-save it as jpg, there is always a loss. Thus, overtime,
your image quality will deteriorate just from minor change -
ESP if you save at low quality. I recommend saving as TIFF or
PSD.

Definition of contrast - ratio of light to dark.

[Interesting Images.](#)

[Advanced paper.](#)

[Buyer's Guide](#)

get what you get as far as lenses, quality, control, etc. - since lenses are not interchangeable, you are stuck with what you purchased.

Cost is usually less for a given configuration of megapixels and lens - if you can live with its limits you probably get more value with less megapixels

Size and weight are normally (a lot) less

Usually a lot less control over the camera

modes (often no manual or AV, TV modes).

in-camera post processing normally not controllable (RAW, contrast, saturation, etc.)

MEETING 3 starts here

[Some photos...](#)

Lower quality overall

smaller, lower quality lens

weaker frames

no seals for tougher conditions (water/dust)

Usually (always?) can see the image on the LCD as you get ready to take the picture.

That said there are some excellent choices out there - many take better pictures most of the time than SLRs (esp. if you don't know how to use an SLR AND post-processing well).

[IS technology](#)

SLRs

SLR - [what is an SLR?](#)

"Single Lens Reflex" - A camera in which you view the scene through the same lens that takes the picture. A system of a mirror and prism are used to let you see through the actual lens. One drawback is the mirror must be moved to take the picture, thus causing "shake"...

TTL - Through The Lens viewing

With a point and shoot (aka "rangefinder"), you normally do not see through the lens you will be using to record the image.

Reviews,

[by Size](#)

[More](#)

[Equipment Reviews, in general](#)

[Reviews](#)

Sensor

Size matters (lenses and quality of image) – both megapixels and cell sizes.

Full-frame vs. smaller

magnification factor, aka "[crop](#)" factor, [more](#)

[vignetting](#) on full-frame at small f-stop, [description](#),

[more](#)

[special lenses required for wide angle](#)

Different technologies – dynamic range

[Fuji](#) and [here](#)

Lenses

Quality proportional to costs

You become married to the lenses because they cost far more than the camera (as you get more of them and move “up”) and never age.

Chose your lenses and then choose your camera

Canon is the behemoth and probably the MacDonaldis – they have the most lenses, and the most technology. BUT, they do not excel in every area – Nikon and fuji have some edges.

When you look at the lens “marriage” issue, it becomes difficult to not go with Canon in the SLR world. THIS IS RELIGION!!!

Optics - [more than you wanted to know!](#)

What does money buy you in an SLR?

More rugged construction

better resale

Longer life

More reliable

Better built-in light meters

Better viewfinders

Better service (more likely to be repairable)

Nicer to use

Sometimes harder to use (more features and oriented to pros)

Bigger/heavier

More megapixels of higher quality per pixel

More information about the pictures being taken - Histograms, blinking over exposures (very useful)

Better control (manual mode)

Speed – faster saving/review/rapid fire

Rapid fire modes

Note, most low-end cameras have features high-end ones don't:

Movie modes

More controllability in terms of settings

manual

1/3 stop settings for ISO, f-stop

Lenses with manual focus

Often this is "nice"

Sometimes a necessity

When you want to focus on something the auto-focus will not

When light or conditions cause the AF to not work at all

Ability to set, override or disable most post-processing so that the image is "truer" when you get it into your PC

External flash – hot shoe

External control – remotes, wireless, etc

Bigger LCDs

Lower and higher ISOs

Higher shutter speeds

Value point is currently around \$1,000 dollars

More \$ gets you when starting at the low-end and moving to the high-end

more control (more modes + manual + bulb)

better quality sensor cells

more pixels

better quality construction

better batteries

better software

faster image save to storage card

faster images per second (good for action shots)

better lenses

interchangeable lenses

bigger view screens

negatives:

SLRs you cannot see the picture to be taken on the LCD

Best value is probably the \$500-\$700 zoom SLR-like cameras. [1](#), [2](#), [3](#)

Best quality is... no limit! [1](#)

Camera Purchase Recommendation

Reads the reviews!!!

Go to the Stores!!!

Ask Friends and Family!!

[Buyer's Guide: here \(excellent overview\), 5-parts \(scroll down for list\)](#)

A look at some camera specifications: [What does all this mean???](#)

Point and shoot:

Small Package

[Canon SD630](#) - \$330

[Fuji F470](#) - \$250

[Nikon S6](#) - \$300

Medium Package

[Canon Powershot S80](#) - \$500 (I have the previous version of this, the S70 - it takes great pictures but is a bit fragile, IMHO).

[Fuji F650](#) - \$350

Almost SLR - these are the most capable cameras for your \$ - they will give the best pictures per \$ spent (not as good as SLR, but a fraction of the cost for 90-95% of the quality and control). some drawbacks - size - these will not fit in a fannypack, they will be obsolete in a few years, and unlike and SLR, you will throw away the lens.

[Canon Powershot S3 IS](#) - \$425

[Fuji S9500](#) - \$550

[Sony DSC-H1](#) - \$500

SLR - all prices are BODY ONLY - add in prices for lenses

[Canon Rebel XT](#) - \$700

[Sony A100](#) - \$1,000 - very impressive camera!!!

[Canon 30D](#) - \$1250

[Nikon D200](#) - \$1700

[Canon 5D](#) - \$3,000

Bottom Line:

Almost any camera you buy today for \$300+ will take very good pictures. Buy something and start learning about both the camera itself and picture taking - the camera will NEVER make good pictures if you don't have a good photographer behind it and a good photographer can make ANY camera take good pictures. Never blame your camera!!

MEETING 4 starts here

Basic Camera Use

Basic camera settings

Jpg vs. [raw](#)

With jpg, the camera "processes" the image (color correction, saturation, contrast) and then saves the image - the processing has forever changed the original image (i.e., partially destroyed it).

Image size & compression

Most cameras have 2-5 images sizes and sometimes levels of jpg compression that can be set

Simple rule: set max resolution and minimum compression - you always get the best image you can get - memory and disk space are "free". The only exception to this would be if you were low in digital card space (shame on you - 4gb < \$100!!).

Sharpness, contrast, saturation - adjustable in the camera

in general, disable all this and do in post-processing UNLESS you do not want to do post-processing.

Profiles – different profiles for different settings (indoors, cloudy days, etc.)

[White balance](#)

before and after the picture

before the picture - you either tell the camera the type of light (outdoor, cloudy, florescent, etc.) or you set it to "Auto White Balance". [See this](#).

After the picture - you adjust it in Photoshop or the equivalent

In general, cameras (I've used) do pretty well at AWB.

Mixed lighting – some light is one "color" while other is different. Good example is in a room with a lot of outside light coming in and you have it lighted with incandescents.

Zoom: optical vs. digital - NEVER use digital zoom!!! -- disable it, if possible in your camera.

Photographic concepts

ISO, F-STOP (aka aperture setting), lighting, shutter speed (all four of these are related), Focus, Composition

Tutorials: [here](#), [here](#)

Three things affect how long the shutter needs to be open:

ISO - "speed" the CCD cells respond to light

Aperture, F-Stop - how wide the lens is open - how much light makes it through the lens and onto the CCD

How much light is available outside the lens - is it a sunny day or a dark room?

Tutorials: [1](#), [2](#)

ISO

Effective speed of the film - how much light it takes to make an exposure

Numbers are always 1/2, 2x of each other. E.g., 50, 100, 200, 400, etc.

Digital cameras use the same calibrations as film

Lower numbers mean slower but better pictures

general rule is to use lowest ISO you can in a given situation (best quality image)

Go Up lowest setting when:

low light, want faster shutter speed, etc

F-Stop == how MUCH light

F-Stop vs. [aperture](#) - synonymous for all practical purposes

Origin of term vague - just think of it as a number that represent lens opening (albeit confusing and sort of backwards)

The "whole" numbers are: 1.0, 1.4, 2.0, 2.8, 4, 5.6, 8, 11, 16, 22

f-stop is a ratio of the lens diameter and the focal length - for this reason, you can see why it is hard to build a long focal length lens with a small f-stop:

f2 on a 50mm is 50/2

f2 on a 100mm is 100/2

The MOST confusing part for any new photographer: JUST remember in photographic term: a BIG aperture is actually referring to a smaller number engraved on the aperture ring of the lens i.e. f/1.4, f/2, f/2.8, f/4.0 etc. while small apertures means bigger numbers i.e. f/22, f/16, f/11, f/8 etc. Once you have "overcome" such "mental block" in calculation, it should help you greatly understand and enjoy more in other sections to follow.

A lens has metal blades that open and close based on f-stop setting

they set the amount of light that can enter the lens.

Each smaller f-stop lets in TWICE the light of larger and each larger lets in HALF the light of smaller.

The terms "open", "closed", "wide-open", "stopped-down"

Lower number means "faster" lens (more light coming in) -

faster here means you can use a "faster" shutter speed (shorter time)

Lower number means shorter DOF!

Faster lens cost more for a given quality (because lenses have to be bigger to let more light in)
Faster lenses are heavier for a given quality
Image quality can be dependent on f-stop - some lenses are good wide-open vs. closed down. In general, most lenses look better when stopped down (because less of the "glass" has light coming through it - less distortion possible).
DOF (1/3-2/3 rule)

DOF Explanations

[Photozone](#) - good table

[Good DOF Examples](#)

1

2

Blurring all but subject makes subject stand out
use small f-stops for people, large for landscapes

Up close, wide-angle vs. long-distance and telephoto of SAME composition - will the picture look the same?

Lens distortion

DOF issues at same f-stop

[Hyperfocal distance](#)

distance when lens is focused all objects appear reasonably sharp (subjective) from 1/2 HF distance to infinity.

DOF calculations - [dofmaster.com](#) and [here](#)

DOF increases with smaller lens and distance and larger f-stop

30mm lens at same distance as 50mm lens has greater DOF

50mm lens has greater DOF when focused on farther object

50mm @ f/11 has greater DOF than @f/8 at same distance

e.g. 50mm @ 4 feet, f/8: 3.60-4.51 (.9)

f/11: 3.45-4.75 (1.3)

e.g. 50mm @ 8 feet, f/8: 6.51-10.4 (3.9)

f/11: 6.04-11.8 (5.7)

Shutter Speed == How LONG light comes through lens

[Explanation](#)

Measures in seconds (or fractions of a second (e.g., 1/125))

Generally will be in doubling/halving fractions (e.g., 1/60, 1/125, 1/250, etc.)

rule of lens focal length vs. shutter speed (hand held), e.g., for a 200mm lens length, you need about 1/200 or faster shutter speed.

What speeds should you use?

what are you doing?

Movement - freeze - people, sports.

Movement - show - e.g., water

There are two types of movement - the objects in the frame and the camera!

No movement - hand-held vs. tripod

Sunny 16 rule - in bright sunlight: use f16 and shutter speed == ISO

Lighting

using available light

position subject to change light - move people into or out of shade

using an object such as a reflector to enhance light

Flash -

built-in

external

Attached

Detached - wired or remote

Curtains!! [1](#), [high-speed-sync](#)

Metering Light

camera light meters are designed to measure a certain color/quantity of light. Generally, this is the equivalent of 18% gray - the camera takes the area to be metered (depends on which metering mode you have set) and makes the resulting area be exposed to that level. If the subject you are taking a picture of happens to be 18% gray, then the camera will correctly expose. But if the subject happens to be much lighter than the average, it will come out over exposed and vice-versa. You may have to [compensate](#) the exposure to make the subject you are interested in come out properly exposed. [1](#)
Metering modes - how the camera computes the exposure - how much of the scene it uses to calculate the proper exposure.

Exposure (not just getting too cold in the artic...)

The quantity of light allowed to act on a photographic material; a product of the intensity (controlled by the lens opening) and the duration (controlled by the shutter speed or enlarging time) of light striking the film or paper. The act of allowing light to reach the light-sensitive emulsion of the photographic material. Also refers to the amount (duration and intensity) of light which reaches the film.

[Understanding the histogram](#)

Taking the shot:

set ISO, aperture, shutter based on light (and what you want (under, proper, over exposed, motion blur, etc.))

Often, you want a certain shutter speed:

want something blurred (water in a waterfall)

want action frozen (sports or kids)

Control Shutter Speed:

Aperture

ISO

Filters (ND, color, circular polarizer)

Amount of light (natural, flash, modifiers
(reflectors)).

Often, you want to control DOF:

shallow to give subject a sense of 3-d depth

deep - want entire scene in focus from front to back

DOF can be changed by three things: 1

distance (changes composition)

Zoom (changes composition unless also change
distance to hold comp)

Aperture - does not change comp but changes
exposure (good or bad)

Reciprocity: exposure = duration x time: inverse relationship

between intensity and duration of light determines exposure.

a shot at 1/125 at f/8 would be 1/250 if aperture opened
"one" stop to f5.6 (i.e., double the light)

Reciprocity failure: when the linear rules no longer
apply - typically, when you get to either very long or
short shutter speeds, the physics break down. E.g., if
the shutter speeds get into seconds, it often takes longer
for the exposure to be correct.

Use f-stop and exposure 1/2, double rules. If you are 2-stops
low, you can adjust either ISO, shutter OR f-stop OR ANY
combination to get the 2-stops:

+1 ISO, -1 shutter

-1 Shutter, -1 f/stop

-2 shutter

etc.

Maximum sharpness

Tripod

MLU

Manual Focus

harder now days because the lenses do not have
the grids and "split" images they did in the "old"
days.

Shooting modes

Single shot

multiple exposure

Timers

Remotes - wireless, cabled

"tethered"

White balance

Lenses

Digital-only vs. full-frame - the multiplication/crop factor

Focal length, [1](#), [2](#)

Distance from center of lens to where the light rays converge or focus

Longer focal length means greater magnification

The "standard" 50mm lens on a 35mm camera - when you look through the viewfinder, it will look "normal" size - no magnification at all

Focal lengths of point-and-shoots - I have seen them range from 5mm to 500mm!!

These are always in terms of the "standard" 50mm lens on a 35mm camera.

Wide angle vs. telephoto

Wide angle means "short" focal length - e.g., what you see is a "wide" area compared with the 50mm "normal"

Telephoto means "long" which means small area, high magnification (like a "telescope").

Fixed vs. zoom

[IS technology](#)

in lens vs. in-camera

great if in-camera except for when you get rid of camera!

Great for in-lens when you get rid of camera but now you need all lenses to have the feature!

in-lens

heavier, bigger, more expensive

feature moves with lens, not camera

Filters

The UV/skylight filter debate [1](#)

some people claim you should have these on the front of every lens for protection of the lens yet most pros say don't bother.

some claim these block some forms of UV yet most digital sensors are not sensitive to UV

Neutral Density (ND) filters [1](#), [2](#)

ND filters have four main uses:

To enable slow shutter speeds to be used, especially with fast films, to record movement in subjects such as waterfalls, clouds, cars, seas etc.

To decrease depth of field by allowing wider apertures to be used, which helps separate subjects from their background.

To decrease the effective ISO of high speed film (ie: above ISO400) and allow it to be used outdoors in bright situations.

To allow cameras (which have limited maximum shutter speeds) to film subjects such

as snow, sand or other bright scenes which would normally cause over-exposure.

Split-ND: [1](#), [2](#)

an ND filter on one part and a clear filter on another

Often used in landscape photography when sky is too bright relative to non-sky. Digital cameras have a limited dynamic range so it is tough to get both bright and dark subject in a single shot.

Option is to take multiple exposures and combine in post-processing.

Only works well when there is a "clean" line between dark and light areas.

Polarizing - circular: [1](#), [2](#)

used to reduce reflection
to enhance the sky

Colored

almost unneeded in digital because it is so easy to do in post-processing. [1](#)

Focus

Manual

Auto

Focus grids xyzzzy

Lens distortions

lens quality, type, size, etc.

fixed

zoom

telephoto

macro

fisheye

price proportional to size, quality, max aperture

contrast

clarity

glass vs. plastic lenses

choose your lens manufacture, then the camera follows

Vignetting

tilt lenses

Coatings

Some are special to digital cameras because of light reflection off the sensor back onto the lens and back to the sensor glass that can cause ghosting of image

Reciprocity - film vs. digital

Memory cards - sizes, costs, types

Batteries

spares

chargers - home, car
ebay for non-OEM versions

Travel cases

backpacks
soft carrying
hard cases

What size - always bigger than all your current equipment!

Photography

In the end, ALL photography is about "painting with light"

Taking the picture - How do you decide on what camera settings to use to get the picture you want?

First (HARD!!), figure out what you want!

Learning to "see"

What makes a "correct" exposure (correct amount of light, not subject):

[Reciprocity](#): exposure = duration x time: inverse relationship between intensity and duration of light determines exposure.
a shot at 1/125 at f/8 would be 1/250 if aperture opened "one" stop (i.e., double the light)

Use f-stop and exposure 1/2, double rules. If you are 2-stops low, you can adjust either ISO, shutter OR f-stop OR ANY combination to get the 2-stops:

+1 ISO, -1 shutter
-1 Shutter, -1 f/stop
-2 shutter
etc.

In auto-mode, camera decides for you.

Set ISO as low as possible (in general)

Set aperture for desired DOF if you care (let camera set shutter speed) - this is called aperture priority - you are giving priority to aperture and ignoring shutter speed

or set shutter speed for desired speed if you care and let camera set aperture - this is called shutter priority

Use manual mode to force camera to use your desired aperture and shutter speeds - rarely needed unless something about scene cannot be metered by your camera (e.g., external flashes, that camera does not know about).

use exposure override if you need it or camera is doing the wrong thing.

Exposure for digital cameras should always be less than pure white (245 vs. 255). Use histogram to see this or some cameras will "blink" overexposed areas.

Shutter curtains

Camera Settings

See shooting modes (single shot)

Meter readings

Exposure settings, [1](#)

- Auto
- Aperture
- Shutter
- Program
- Other modes (portrait, night, etc)
- white balance
- exposure lock ([sample use](#))
- exposure compensation

Focus

- setting - grid
- low-light issues
- manual

Flash

- Flash exposure compensation

Exercises

- use each mode for same conditions
- Use manual mode

Histogram

- rule is to get exposure to almost touch right edge
- how to adjust when it's not there:
 - exposure compensation
 - manual mode

Photographic Techniques

- Tutorials: [here](#), [here](#)

Lighting

Indoor

Flash

- on camera
- Always-on
- Strobes
- Equipment - stands
- Gels

Light boxes

Outdoor

- Sunny/Cloudy
- Sunrise, sunset
- Shade
- flash fill

Light meters vs. on camera

- With digital, you can look at the exposure
- better camera give you a histogram
- digital means you can easily "bracket" shots
- Post processing gives some leeway in correcting exposure
- exposure lock

Composition

Rule of thirds, [here](#)

"S" rivers, etc

Lead eyes to subject

Distractions - color, strange compositions

Eyes see CONTRAST first, color next

Tripods

styles/types

aluminum

carbon

steel

level legs

twist lock legs

Weight - cost inversely proportional to weight

Cost

Size

Stability

Tilt axes

When to use

Monopods

ballheads

leveling

panoramas

rotating about the "lens pupil"

how to set up

Studio/Home studio

Backgrounds

Fixed photography

People

Solid colors

Patterns, muslin, etc.

"chromakey" green and blue

Putting in BG in post processing

Umbrellas

Reflectors

Color

white balance

gray cards

color cards

Portraits

Outdoors

Night

Multiple Exposures

You've got the shot, now what?

Download to PC for post-processing

Using camera - NO!!

Using card reader

Direct printing

Printing at commercial printers - taking the media to them vs, PC, etc.

Online - costco, fotki

Carry-in

Sharing services

many are free

can let relatives print their own!!

on-line slideshows, etc.

Printing

Services

Costco

Fotki

Dot photo

MPIX

Specilized services for B&W

Color Matching profiles

Home

Paper types, costs, speed

Printers - types, manufacturers

Inks – costs, clogging, from printer manufacturer vs. 3rd party

New epson printers

color profiling

monitor

printer

hardware

software

LCDs vs. CRTs

Print/ink life

Wilhelm

Metamarism

Framing

pre-made

do it yourself

from pre-cut parts

cut your own!

matting

size

color selection

double, triple matting

materials

boards

tape

cutters

Scanning

Collages

software

Slide shows

Software

music

Post-processing

[Why post-process?](#)

simple operations like cropping are often only possible after the picture is taken (i.e., getting to the correct distance from the subject with a given lens may be impossible).

Removal of unwanted objects - esp. in the background.

The camera rarely accurately records what you "saw" or want to see.

Because of the camera and print limitations, an image must be manipulated to make it "feel" as if you were looking at the actual scene.

The camera image often needs improvement (such as sharpening or color correction)

A final picture is not always what is actually there in reality - it may tell a story that can only be told after editing.

Is it really "correct" to post-process - that's a personal decision. But, no image you ever see in a commercial setting is what the camera actually took.

Basic operations:

Adjust the geometry: crop, rotate, correct perspective distortion, etc.

Remove dust specks and scratches.

Correct for lens aberrations, if needed: distortion (barrel and pincushion), [chromatic aberration](#) (color fringing), and light falloff (in wide angle lenses).

Adjust the brightness, contrast, color tint, and color saturation of the image as a whole.

Adjust portions of the image to bring them into balance with the image as a whole. This typically involves the use of [masks](#) and may be facilitated by sophisticated techniques such as [contrast masking](#).

Sharpen the image, and, if necessary, reduce grain.

Applications

Camera supplied utilities

Non-adobe

Ease of use, features, training available, compatibility across files

Adobe

Elements – 99% of what most people need, well supported, free or very cheap, very good stepping stone to Photoshop

Photoshop – the big kahuna – most power, most training, most expensive, hardest to learn, DARN fun.

Painter

art + photography

External services

printing
Photoshop Elements
Tutorials

http://download.adobe.com/pub/adobe/photoshopelements/special/movies/PSE4_Overview.wmv
<http://graphicssoft.about.com/od/pselements/>
<http://www.adobe.com/products/photoshopelwin/training.html#tutorials>
<http://www.photoshopelementsuser.com/tutorials/>
<http://www.photoshopelementsuser.com/learningcenter/>

Basics

Obtaining the s/w
educational
free 30 day trial
upgrade from elements?

Opening files & workflow

two basic methods - using the photo browser or traditional
FILE-Open or drag and drop.

My work flow:

always take card out of camera and use card reader to
transfer pictures to PC for storage and editing.

Isolates camera from PC and cabling

All photos stored on PC (you back up, right)

All files stored in a folder named "mm.dd.yy.xx

Description" - simple, easy, etc.

All files edited by opening directly in photo editor

All files saved to an edited area - original files NEVER
overwritten or edited

All files saved in jpg 12 or in PSD

Elements File Browser:

Use "Get Photos" button to load pictures.

Turn off "Automatically Fix Red Eyes

Once photos are in catalog, various ways to view

top line - by date

limit view with date sliders

click on months

Date view button on upper-right to show

calendar

Use Year, Month, Day buttons at bottom of

calendar to change displays

Edit photos by using button on top or right-click for
options

I recommend that you do not use the photo browser -
why? Just another piece of software to learn that will
change with each release of elements and has too many
strange options. Instead, just drag and drop to Elements
or open directly from elements.

Edit - quick fix vs. Standard Edit

Important Keyboard shortcuts
space bar, ALT, CTL
[], shift-[]

Menus

Customization

Temp files

Basic settings dialogs

basic selection techniques

Basic flow

download / obtain pictures / images

select desired images (using bridge)

open / edit / save

print (repeat for color issues, etc.)

Palettes

Zooming - shortcuts

Toolbar

Bridge

basics - setup

viewing

opening photos

File formats

jpg

raw

tiff

Basic tools

Basic editing

Cropping, rotating

Image sizes and pixels

Levels

Color

Hue and saturation

Layers

Concepts

Adding

Duplication

Transparency

Masks

Layer styles

Layer masks

Other Tools

history brush

Advanced selection techniques

extract

background eraser

pen tools

selection paths

magnetic lasso

select-color-range

Paths

free hand

Bezier curves

Channels

B&W control

Color spaces

RGB

CMYK

LAB

Compositions

Multiple Exposures - HCM

retouching

<http://www.creativepro.com/story/howto/24434.html?cprose=daily>

Restorations

nilda samples

Warping

9xy sample

Filters

Gallery

Smart objects

color correction

[here](#) for lots of techniques

shoot with grey card

mixed lighting problems

Other

[Removing vignetting](#)

guides

rulers

History

Text

Bits vs. vectors

Tablets

Color - monitors, printers

Profiling

Printer

Paper

After-market inks

Scanner

Monitor

Calibration

Profiles (Adobe vs. sRGB)

printing

image sizes and ppi

Tutorials

[here](#) - lots of quick, simple solutions

Home studio

- lighting
 - hot
 - strobes
 - light colors
- soft boxes
- backgrounds
- props
- Professionally
 - people
 - posed
 - weddings
 - senior pictures
 - Studio vs. Outdoor
- Wildlife
- Landscape
- journalism
- Other
 - special projects
 - documentary
 - war
 - Product shots
 - products (computer chips)
 - food
- Working for yourself
- Publishing photo books

Assignments

Assignment 1:

if you have a camera:

bring it and the user's manual to next week's meeting
take a picture of something you don't normally take a picture
of, look at it and see if there are things you would like to
improve about it.

Read the user's manual and figure out what your camera can
and can't do.

Bring questions to next week's lunch meeting.

If you do not have a camera:

think about what you might want to take pictures of
come up with a camera budget

start researching the links given in this doc to learn about
cameras.

Come in next week with questions!

Assignment 2

If you do not have a camera - what are you waiting for!!! Not sure? - go to
[Craig's List](#) and buy a used \$100 digital - I found at least 5 good choices for <
\$200.

If you do not yet own a tripod:

go buy one: wal-mart(?), [craig's list](#), ?? (\$30 should get you one good enough to get started)

Proceed to next step...

If you have a tripod:

take 2 shots of the same subject indoors under low-light conditions, NO FLASH (may have to read user's guide to figure out how to disable flash):

one shot hand-held

second on tripod - use "timer" to trigger camera (you may have to read the user's manual!)

Compare images

Future

Single color

use and abuse the rule of 1/3s for the same subjects and see which you like better

Express [motion](#) in an image

images with string (or only) shadows, [example](#), [example](#)

Black and white images. Show in both color and B&W and note mood change

single shape

backlighting

Shoot some silhouettes, [tutorial](#)

nighttime

Flash

flash fill, no fill

macro

color balance

av

tv

manual

motion blur

bulb

collages

silhouettes

Composites

shoot at different camera resolutions and enlarge images on screen to see differences. Shoot RAW vs. jpeg, if possible and note differences (sharpness, contrast, saturation, WB, etc.)

-END-